

Device for thermal imaging diagnostics of hydrogenerator rotor windings comprises an objective, n mirrors fixed on an optical bar such that their planes form an angle of 45° with a main optical axis, n lenses installed on the same optical axis as the mirrors, a line of n individual infrared sensors, a frequency divider, a buffer register, a commutator, two analog-to-digital converters, an interface unit, five registers, two digital comparators, a first flip-flop, two AND elements, two pulse generators, two controlled amplifiers, a video control unit, three counters, a voltage generator, a memory unit, a comparator unit, a NOT element, two signal shapers, a first comparator, and two digital indicators. An output of the frequency divider is connected to inputs of the buffer register, the first counter, and to a first input of the video control unit, the second and third inputs of which are connected to outputs of the first and second controlled amplifiers, the first inputs of which are connected to an output of the voltage generator, and second inputs are connected, respectively, to first and second outputs of the memory unit, an input digital bus of which is connected to an output digital bus of the first counter. A fourth input of the video control unit together with a first input of the first analog-to-digital converter are connected to an output of the commutator, an input digital bus of which is connected to an output digital bus of the buffer register, an input digital bus of which is connected to outputs of the line of n individual infrared sensors. An output digital bus of the first analog-to-digital converter is connected to computer circuits via the interface unit, an output of the first digital comparator is connected to a first input of the first flip-flop, an output of the first pulse generator is connected to a first input of the first AND element, an output of which is connected to inputs of the frequency divider, the commutator, the voltage generator, and to a second input of the first analog-to-digital converter, an output of the first flip-flop is connected to a second input of the first AND element. A second input is connected to an output of the first signal shaper, an input of which together with inputs of the first register and the NOT element are connected to an output of the second pulse generator, an output of the NOT element is connected to an input of the second register, an output digital bus of the comparator unit is connected to input digital buses of the first and second registers, output digital buses of which are connected to first and second input digital buses of the first digital comparator. An input digital bus of the comparator unit is connected to the outputs of the line of n individual infrared sensors. The output of the first AND element is connected to an input of the second counter, an output digital bus of the second analog-to-digital converter is connected to an input digital bus of the third register, an output digital bus of which is connected to an input digital bus of the fourth register and to a first input digital bus of the second digital comparator, a second input digital bus of which is connected to the output digital bus of the second analog-to-digital converter. An output is connected to a second input of the second AND element, a first input of which together with a second input of the second analog-to-digital converter are connected to the output of the first AND element. An output is connected to the input of the third register, the output of the commutator is connected to a first input of the second analog-to-digital converter and to an input of the first comparator, an output of which is connected to a first input of the third counter, an output digital bus of which is connected to an input digital bus of the fifth register, and a second input is connected to an output of the second signal shaper, an input of which together with inputs of the fourth and fifth registers are connected to the output of the second counter, output digital buses of the fourth and fifth registers are connected, respectively, to input digital buses of the first and second digital indicators. There are introduced therein three counters, three registers, three AND elements, an OR element, a second flip-flop, a second comparator, a third digital comparator, a pulse shaper, and a third digital indicator. The output of the frequency divider is connected to an input of the second flip-flop, first and second outputs of which are connected, respectively, to first inputs of the third and fourth AND elements, outputs of which are connected to first inputs of the sixth and seventh registers, and second inputs together with a second input of the fifth AND element are connected to an output of the second comparator, an input of which is connected to the output of the commutator, a first input of the fifth AND element is connected to an output of the third digital comparator, first and second input digital buses of which are connected, respectively, to output digital buses of the sixth and seventh registers, input digital

buses of which are connected to an output digital bus of the fourth counter, and second inputs of which together with an input of the pulse shaper and an input of the eighth register are connected to an output of the OR element, a first input of which is connected to an output of the fifth counter, a first input of which is connected to the output of the fourth counter, and a second input together with second inputs of the fourth counter and the OR element are connected to the output of the first counter, an output of the pulse shaper is connected to a second input of the sixth counter, a first input of which is connected to the output of the fifth AND element, and an output digital bus is connected to an input digital bus of the eighth register, an output digital bus of which is connected to an input digital bus of the third digital indicator, and a first input of the fourth counter is connected to the output of the first AND element.